

Barriers to childhood immunisation among New Zealand mothers

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ABSTRACT

Parental knowledge of, and attitudes towards, immunisation and the diseases that vaccines protect against are important determinants of a decision to vaccinate children. This study addresses parents' beliefs and perceptions about childhood immunisation and identifies potential and existing barriers. Focus groups and one-on-one interviews were held with New Zealand European and Maori mothers of starters and non-starters of the immunisation schedule.

Six primary themes were identified for parents: fear of vaccination; a belief that vaccination is unnecessary; a lack of knowledge and understanding of immunisa-

tions; a negative perception of health providers; difficulty accessing vaccination; and some supportive attitudes towards immunisation.

Parents shared the desire to keep their children healthy and free from harm, but differed in their knowledge of, and attitude towards, immunisation and the diseases it protects against. Changing immunisation behaviour will require a multi-faceted approach while reinforcing positive actions.

Key words

Immunisation, attitude, qualitative research

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Introduction

Immunisation prevents disease and is one of the most cost-effective public health interventions.^{1–3} Since introduction of mass immunisation, considerable international declines in morbidity and mortality have been reported for the nine vaccine-preventable diseases for which the World Health Organisation has recommended the vaccination of children.^{1,2,4}

New Zealand (NZ) has had less benefit than many other countries from the improvements to population health made possible by immunisation. This is primarily because the

immunisation coverage has never achieved sufficiently high levels. In 1998, according to the United Nations Children's Fund (UNICEF), 102 of the 193 listed countries had immunisation rates for the primary infant series higher than NZ's.⁵ For immunisation programmes to be fully effective they must maintain coverage levels of approximately 90–95%.⁶ In 1992 the NZ national coverage survey found less than 60% of children were fully immunised by the age of two years.⁷ A repeat coverage survey in 1996 in the Northern region found minimal improvement, with overall

coverage of 63% fully immunised by age two.⁸ There have been no clear improvements since that time.⁹ Although data is limited, the 1996 survey shows that Pacific populations' immunisation uptake by age two years was lower (53%) than Pakeha/New Zealand European and Maori was the lowest at 44.6%. These coverage rates are well below the targets set by the Ministry of Health in 1995 to achieve 95% immunisation coverage of all NZ children by 2000.¹⁰

Parental knowledge of, and attitudes towards, immunisation and the diseases against which vaccines protect are

important determinants of the decision to vaccinate their children.^{11–15} Concerns about vaccines, even without scientific support, have the potential to erode public confidence and support for the immunisation programme.¹⁶ The low vaccine coverage in NZ has resulted in recurrent outbreaks of preventable diseases such as pertussis and measles.¹⁷

The 1992 results of the Regional Immunisation Coverage Surveys from all Area Health Boards found that, in general, 68–80% of caregivers throughout the country expressed a desire for more information from vaccination providers regarding immunisations.^{8,10} Depending on region, 2–8% of caregivers felt that immunisation was not important. In 1996 this belief was held by 3.7–10% of caregivers, depending on region.⁸ Concerns have been expressed that lack of confidence in vaccination may be a growing problem and contributing to the ongoing low coverage rates. In response to these findings, the Immunisation Advisory Centre carried out a national telephone survey of NZ mothers to identify knowledge and concerns about immunisation in 2000.¹⁸ Twelve per cent of mothers in this survey were not convinced immunisation prevented disease, indicating that low level of confidence in vaccination among urban NZ mothers may itself be sufficient to prevent NZ's target vaccine uptake rate of 95% being achieved.

To date, research on parent attitudes towards immunisation in NZ has been fragmented, or focused on specific groups in the population using regional surveys. To implement strategies to increase immunisation coverage in NZ, comprehensive research is required to understand why parents do not get their children immunised, understand changes across ethnic groups, and

identify how positive behavioural changes may be achieved.

This study aimed to address parents' beliefs, knowledge, perceptions and attitudes about child immunisation, and identify potential and existing barriers that preclude children aged two years and under from completing the immunisation schedule. Also explored were the decision-making processes used by parents when deciding whether to immunise their child, an examination of parental perceived barriers to immunisation and ways in which these can be overcome.

Methods

The participants were Maori and NZ European parents with children aged 18 months to four years. Both focus group and one-on-one interview methods were used. Focus groups allowed like-minded parents to debate the issues and creatively work through their feelings around immunisation. These were supplemented with one-on-one interviews in parents' own homes, to canvass any potential barriers that might not

have been discussed in front of others, and to give busy parents with young babies the chance to participate. Focus groups achieved a breadth of understanding of the various issues, which was enhanced subsequently by depth of

insight obtained through the personal interviews.

Sampling was purposive. Parents were included from the ethnic groups (NZ European and Maori) and the immunisation status (fully vaccinated, partially vaccinated or unvaccinated) was sought. Ethnic group was elicited by self-identification. For

parents who had started the immunisation schedule, immunisation status was verified where possible by a practice nurse or by self-checking the WellChild book. NZ European non-starters were recruited with the co-operation of the Immunisation Awareness Society, the main anti-immunisation/pro-choice group. Discussions and interviews were tape-recorded or notes taken with parents' permission.

Facilitators used enabling and projective techniques to allow parents to explore their knowledge of the diseases and vaccines and to enable them to express their beliefs about immunisation at a deep level. Group discussions lasted between two and two and a half hours and interviews one hour.

Separate focus groups and one-on-one interviews were held with starters and non-starters of the immunisation schedule. Starters were further divided into completers and partial-completers of the immunisation schedule. All groups and one-on-one interviews were with Auckland parents and were conducted in the middle of 2001.

Data collection and analysis proceeded simultaneously. Emerging themes, topics, attitudes and behaviours were noted and categorised into meaningful units. Content provided insight into intention and meaning. The researchers immersed themselves in the language of the parents with whom they spoke, and in the context of their lives to uncover meaning.¹⁹ Expressions were observed, including the tone and emphasis of attitudes and behaviours, as well as the degree of directness and spontaneity of expression. Verbatim comments taken from the study are used to illustrate many of the findings.

The reliability of this qualitative data comes from the consistency of the findings, noting the similarity of

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attitudes and needs expressed in different discussions with similar types of parents. Validity was achieved by the use of projective techniques to identify parents' understanding, ideas and statements about immunisation and what actually occurred.²⁰

A subset of the participant responses underwent a further qualitative analytical process. Interview responses were collated and analysed to identify themes which were combined through ongoing discussions between three of the researchers and re-reading of the transcripts until consensus was reached. The data was independently triple-coded as a consistency check and discrepancies resolved by adjudication.

Results

A total of seven focus groups and 16 one-on-one interviews were conducted. Numbers of starters and non-starters, and of NZ Europeans and Maori parents, are presented in Tables 1 and 2 respectively.

A picture emerged of both positive and negative attitudes towards vaccinations. Six primary themes were identified for parents:

- Fear of vaccination;
- The belief that vaccination is unnecessary;
- A lack of knowledge and understanding about vaccinations;
- A negative perception of health providers;
- Difficulty accessing vaccination;
- A supportive attitude towards vaccination.

Table 3 describes these themes, together with associated sub-themes.

Fear of vaccination

A strong theme to emerge was a fear of vaccination by a number of parents. This involved both concern about the immediate pain associated with vaccination:

"Well you can see the needle being stuck into the body, the vaccination. And the holding down of the child to enable them to get the needle in them properly, the size of the needle."

Table 1. Numbers of starters and non-starters attending focus groups and one-on-one interviews

Immunisation uptake	Focus groups – each of 4–6 parents	One-on-one interviews
Starters	6	12
Non-starters	1	4
TOTAL	7	16

Table 2. Numbers of NZ European and Maori parents attending focus groups and one-on-one interviews

Ethnicity	Number of focus groups – each of 4–6 parents	One-on-one interviews
NZ European parents	4	7
Maori parents	3	9
TOTAL	7	16

Table 3. Emerging themes and sub-themes

Theme	Sub-theme
1. Fear of vaccination	a) Immediate pain b) Long-term damage
2. Vaccination is unnecessary	a) Diseases are rare and/or mild b) Own immunity will protect c) Interferes with 'natural' immunity process
3. Lacks knowledge about vaccinations	a) Unconcerned b) Would like more information
4. Negative perception of health providers	a) Distrusting – suspicion of provider biases b) Uncaring of the individual/condescending
5. Difficulty accessing vaccination	
6. Supportive of vaccination	a) Informed on benefits and risks b) Positive – implicit trust, family tradition

...and fear that the vaccination could cause serious long-term damage to the child:

"These vaccinations are quite dangerous in regards to them being brain damaged and just the certain types of effects that the kids get. The rashes that occur after the vaccination has been given. They are quite bad and drowsiness and crying and they got hot and have fevers afterwards and it is quite bad."

"I fear them getting damaged, the side effects".

Vaccination is unnecessary

Many respondents expressed the belief that vaccination is unnecessary. For some this was a belief that the diseases vaccinated against are either rare or mild when they do occur, or irrelevant to their own children:

"I don't think those (the diseases) are very serious."

"I thought that whooping cough is an old-fashioned disease and it kind of doesn't exist."

"It is such a tiny minority that die from it and they are probably living in sub-standard conditions."

Some were of the opinion that a child's own immunity will protect them:

"We just felt that if we looked after them properly at home and gave them nice clean faces and breastfeed and that was all they needed."

"Even if they got any of those diseases, all they are going to do is be sick for a few days and get natural immunity and have immunity for the rest of their life."

For others, this perspective went further, to the belief that vaccinations interfere with the body's own 'natural' immunity process:

"The homeopath said that by choosing not to vaccinate I am choosing to give him a healthier start because from what I understand through her, you start on a back foot the minute you start vaccinating because it actually has quite a powerful effect to weaken the immune system whereas for me breastfeeding and not choosing to vaccinate I have actually strengthened his immune system twofold."

Lacks knowledge about vaccinations

A lack of understanding about vaccinations emerged strongly from some respondents:

"I don't know much about it."

For some there was a general lack of concern to know more:

"Didn't worry about it. Still not worried about it."

...but others clearly wished to be more informed:

"I would want to know as much as I could about what the disease itself is. The risks. The risks of vaccination as well."

Parents who had failed to complete their children's immunisations rarely spoke of the consequences of the childhood diseases

Negative perception of health providers

Some participants portrayed a negative perception towards vaccination providers. This included a sense of distrust, a suspicion that the health provider had a biased agenda:

*"You went to [***], they talk about making an informed choice. The only information they gave me was pro-immunisation"*

A sense of uncaring of the individual, a condescending attitude by the provider, also came through from some of the responses with:

"They make you feel like, belittled, is that the right word? Lower than anyone else, you don't know anything as a mother."

"I have had some instances where I have gone back to the doctor and all they have done is tell me off for saying no."

Vaccination is an effort to access

Difficulty in accessing vaccination services did not emerge as a major issue, but the opinion was expressed that the effort required to take a child to get vaccinated was a barrier to it occurring:

"I think it would be better if they came to your house and hound you at the door. 'Your kid needs an injection'."

Supportive of immunisation

The final theme was a positive attitude towards vaccination. For some, this was an informed position with awareness of the benefits and risks:

"We have got an awesome health system that keeps our kids from getting sick and immunisation is one that keeps them from getting measles, mumps and things like that."

"It helps them in the long run."

For others, the support was more an implicit trust in the system, and a sense that the family tradition is to vaccinate:

Key Points

- New Zealand has had less benefit than many other countries from the improvements to population health made possible by immunisation.
- A strong theme to emerge was a fear of vaccination by a number of parents.
- Grandparents appeared to have a strong influence for many Maori parents in the decision-making process to immunise.
- Recognising the importance of whanau for Maori in decision-making is essential to support the uptake of the immunisation schedule by Maori parents.

"I was educated to vaccinate."

"There are no downsides to immunisation."

Whilst the general themes that emerged were consistent for Maori and non-Maori, there were some key differences for Maori. Conscientious objectors who were Maori appeared to be more likely to have older children who were immunised. These parents had often rejected immunisation completely for their younger children because of the painful experience of immunising their older children and because of the lack of positive reinforcement when immunising. Immunisers who had not completed and were Maori felt that they were judged for being uncaring parents for not immunising. Maori parents interviewed also appeared to have more motivation to take up the three-month and five-month schedule based on awareness of immunisation certificates required by early childhood centres. Immunisers who took a traditional view appeared to take notice of the example from other members of their whanau in immunising. This was somewhat different from NZ European parents who often looked to

their friendship networks for guidance. Grandparents appeared to have a strong influence for many Maori parents in the decision-making process to immunise.

Discussion

In today's society, many parents as modern consumers anticipate their individual wants and needs to be considered in health care delivery. They expect to take an active role in their immunisation decisions, although they may have underlying anxieties about this decision-making process. All parents shared the desire to keep their children free from disease and from harm. They appeared to be motivated to complete the immunisation schedule when they perceived that the risk of the disease outweighed the risk of other factors.

A strong maternal belief in the importance of the immune system to provide a 'natural' protection against disease and sickness was apparent. Most mothers believed it important to build their child's immune system through breastfeeding, diet, good hygiene and good mothering. Drugs were often seen as being artificial, in conflict with this idea, and weakening or suppressing the immune system in some way.

The perception that vaccines cause harm and the painful immunisation experience act as barriers to completion. Parents who had failed to complete their children's immunisations rarely spoke of the consequences of the childhood diseases, more often focusing on the harmful consequences of the vaccines or how painful and stressful they found having their child immunised.

There are two types of barrier to immunisation – emotive and functional. This study focused on emotional not functional barriers. For some mothers there is a confidence in immunisa-

tion. Diseases are seen as relevant and they seek certainty in protecting their children from disease. For others, there are varying degrees of apprehension about immunisation and caution about protecting children from diseases that they do not see as relevant, and using vaccines about which they have concerns.

The themes identified in this study can be used to profile parents and to further position parents with respect to immunisation and aid the development of useful, meaningful intervention strategies.

Among those that have completed the immunisation schedule there were those who viewed immunisation as an 'insurance policy' against diseases that they believed real and relevant. Also within this group were mothers who immunised their children because it was a traditional practice among their family, whanau or peer group. These parents immunised their children confidently.

Mothers who had begun but not completed the immunisation programme had stopped for differing reasons. Some felt they had vaccinated their children and although not completed they thought their children were protected enough without completing later vaccinations. These parents may have become complacent, perhaps needing reminding of the importance of completing the immunisation schedule along with positive reinforcement. Targeting this group via clear reminders and reasons for completing would be relatively easy.

A further group of parents had begun immunising but then lost confidence in either vaccines or health providers. These parents need help to evaluate the risks and benefits of immunisation and vaccine-preventable

diseases. Health providers will be central in offering support and positive reinforcement. However communicating effectively to this group is more difficult and requires considerably more communication resources.

Among parents who have not completed the immunisation programme were a small group who had no knowledge, understanding or awareness of the diseases and the

vaccines that protect against them. Recruitment and targeting of this group will be difficult, requiring considerable outreach and resources.

The last group were those who actively choose not to immunise. These parents are genuine and usually very clear in their belief systems. They are unlikely to be swayed by more knowledge or communication strategies. The activities of the anti-immunisation lobby can create fears and myths about immunisation for other parents, especially those who are not confident about immunisation. It is therefore important to develop and implement strategies to limit the impact of these activities.

Parents need strong reassurance about the vaccine safety. Information should be provided with reasoned scientific rationale, and cues for safety such as showing healthy immunised babies should be considered. Immunising behaviour needs to be constantly reinforced, not only to reduce dissonance but to ensure that immunising parents feel positive about their decision and go on to immunise again. Health professionals need to be supported to provide consistent information and armed with messages to reinforce the issue: why parents need to immunise; the advantages and disadvantages of diseases versus the

It is important to link immunisation messages to the family group in a way that does not blame or use guilt

Parents need strong reassurance about the vaccine safety

vaccines; side-effects – what might happen; why young babies need to be immunised; good reasons why parents have done the right thing. For Maori, it is important that appropriate media are utilised to provide relevant information.

Recognising the importance of whanau for Maori in decision-making is essential to support the uptake of the immunisation schedule by Maori parents. It is important to link immunisation messages to the family group in a way that does not blame or use guilt. Messages that position children as the centre of the family (its taonga or treasure) and stress the importance of the wellness of children for the family, may be more effective with Maori parents.²¹

A weakness of this study was that only European and Maori parents participated. It was expressed by health providers working with Pacific parents that their low immunisation rates are due to structural rather than emotional barriers, therefore they were not included in this research.

As a qualitative study with purposive sampling, caution must be taken in generalising our findings to the general population. However they can help guide our policy development and further enquiry into optimal vaccination delivery and uptake.

This study has used intensive focusing methods to understand perceptions and attitudes. The saturation of issues allowed key themes to emerge, enabling understanding of the immunisation behaviours of parents who fully immunise, partially immunise and do not immunise their children. These findings can support development of resources and health professional behaviour to promote change among parents to both reinforce their choice to immunise and cultivate confidence in those parents who have concerns about immunising their children.

Recognising the importance of whanau for Maori in decision-making is essential to support the uptake of the immunisation schedule by Maori parents

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